

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (previously presented) A computer implemented method of crawling hyperlinked documents, comprising:
  - sending a request for additional links to hyperlinked documents to a link manager;
  - receiving a plurality of links to hyperlinked documents to be crawled, the plurality of links being selected by the link manager based on priority;
  - grouping the plurality of links to hyperlinked documents by host;
  - grouping hosts into buckets according to a number of hyperlinked documents to be crawled at each host;
  - sorting the hosts in each bucket based on a stall time of each host;
  - selecting a host from one of the buckets to crawl next according to the stall time of the host; and
  - crawling a hyperlinked document from the selected host.
2. (original) The method of claim 1, wherein the stall time of the host is the earliest time in which a hyperlinked document from the host should be crawled.

3. (original) The method of claim 1, wherein selecting a host to crawl next includes selecting a host with a stall time that is earlier than the current time.

4. (canceled)

5. (previously presented) The method of claim 1, further comprising examining the buckets in descending order of the number of hyperlinked documents to be crawled at each host until a host is found with a stall time that is earlier than the current time.

6. (canceled)

7. (previously presented) The method of claim 1, further comprising moving the selected host to a bucket with less hyperlinked documents to be crawled.

8. (original) The method of claim 1, further comprising determining a retrieval time for retrieving the hyperlinked document from the selected host.

9. (original) The method of claim 8, further comprising adjusting subsequent stall times for the selected host according to the retrieval times.

10. (currently amended) A ~~computer program product for crawling~~  
~~hyperlinked documents~~, computer-readable memory device comprising:

- computer code that requests links from a link manager;
- computer code that receives a plurality of links to hyperlinked documents  
to be crawled from the link manager, the plurality of links being selected by the link  
manager based on priority;
- computer code that groups the plurality of links to hyperlinked documents  
by host;
- computer code that groups hosts into buckets according to a number of  
hyperlinked documents to be crawled at each host;
- computer code that selects a host from one of the buckets to crawl next  
according to a stall time of the host;
- computer code that selects a host to crawl next according to a stall time of  
the host; and
- computer code that crawls a hyperlinked document from the selected  
host[; and]
- ~~a computer readable medium that stores the computer codes.~~

11. (currently amended) The ~~computer program product~~ computer-readable  
memory device of claim 10, wherein the ~~computer-readable medium is~~ computer-  
readable memory device includes a CD-ROM, floppy disk, tape, flash memory, system  
memory, or hard drive, ~~or data signal embodied in a carrier wave.~~

12. (previously presented) A computer implemented method of crawling hyperlinked documents, comprising:

- sending a request for links to hyperlinked documents to a device;
- receiving a plurality of links to hyperlinked documents to be crawled from the device, the plurality of links being selected by the device based on priority;
- grouping the plurality of links to hyperlinked documents by host;
- grouping hosts into buckets according to a number of hyperlinked documents to be crawled at each host;
- selecting a host from one of the buckets to crawl next according to a stall time of the host;
- crawling a hyperlinked document from the selected host;
- determining a retrieval time for retrieving the hyperlinked document from the selected host; and
- adjusting subsequent stall times for the selected host according to the retrieval time.

13. (original) The method of claim 12, wherein the stall time of the host is the earliest time in which a hyperlinked document from the host should be crawled.

14. (original) The method of claim 12, wherein selecting a host to crawl next includes selecting a host with a stall time that is earlier than the current time.

15. (canceled)

16. (previously presented) The method of claim 12, further comprising examining the groups in descending order of the number of hyperlinked documents to be crawled at each host until a host is found with a stall time that is earlier than the current time.

17. (previously presented) The method of claim 12, wherein the hosts within each group are sorted by stall time.

18. (previously presented) The method of claim 12, further comprising moving the selected host to a group with less hyperlinked documents to be crawled.

19. (previously presented) The method of claim 18, further comprising determining a retrieval time for retrieving the hyperlinked document from the selected host.

20. (currently amended) A ~~computer program product for crawling~~  
~~hyperlinked documents~~, computer-readable memory device comprising:  
computer code that sends a request for links to hyperlinked documents to a device;

computer code that receives a plurality of links to hyperlinked documents to be crawled from the device, the plurality of links being selected by the device based on priority;

computer code that groups the plurality of links to hyperlinked documents by host;

computer code that groups hosts into buckets according to a number of hyperlinked documents to be crawled at each host;

computer code that selects a host from one of the buckets to crawl next according to a stall time of the host;

computer code that crawls a hyperlinked document from the selected host including determining a retrieval time for retrieving the hyperlinked document from the selected host; and

computer code that adjusts subsequent stall times for the selected host according to the retrieval time[[: and]]

~~a computer readable medium that stores the computer codes.~~

21. (currently amended) The ~~computer program product~~ computer-readable memory device of claim 20, wherein the ~~computer readable medium is~~ computer-readable memory device includes a CD-ROM, floppy disk, tape, flash memory, system memory, or hard drive, ~~or data signal embodied in a carrier wave.~~

22. (original) A computer implemented method of crawling hyperlinked documents, comprising:

- storing a plurality of links to hyperlinked documents to be crawled;
- determining that more links to hyperlinked documents are desired;
- sending requests to multiple link managers for more links to hyperlinked documents;
- receiving additional links to hyperlinked documents from the link managers;
- selecting a host to crawl next according to a stall time of the host; and
- crawling a hyperlinked document from the selected host.

23. (currently amended) A ~~computer program product for crawling hyperlinked documents~~, computer-readable memory device comprising:

- computer code that stores a plurality of links to hyperlinked documents to be crawled;
- computer code that determines that more links to hyperlinked documents are desired;
- computer code that sends requests to multiple link managers for more links to hyperlinked documents;
- computer code that receives additional links to hyperlinked documents from the link managers;

computer code that selects a host to crawl next according to a stall time of  
the host; and

computer code that crawls a hyperlinked document from the selected  
host[[; and]]

~~a computer readable medium that stores the computer codes.~~

24. (currently amended) The ~~computer program product~~ computer-readable  
memory device of claim 23, wherein the ~~computer readable medium is~~ computer-  
readable memory device includes a CD-ROM, floppy disk, tape, flash memory, system  
memory, or hard drive, ~~or data signal embodied in a carrier wave.~~

25. (canceled)

26. (currently amended) A computer-implemented method for crawling  
hyperlinked documents, comprising:

grouping links to hyperlinked documents by host, each host being  
associated with a stall time;

grouping hosts into buckets according to a number of hyperlinked  
documents to be crawled at each host;

sorting the hosts in each bucket based on the stall time of each host;

[[and]]



identifying a host to crawl by examining the buckets in descending order based on the number of hyperlinked documents to be crawled at each host until a host is found with a stall time that is earlier than a current time; and  
crawling a hyperlinked document from the identified host.